

1       **What is claimed is:**

1           1.   A floating gate formed on the surface of a  
2 semiconductor substrate, comprising:

3           a conductive base having a first top portion and a first  
4           bottom portion, wherein an edge of the first top  
5           is a first tip, and the first bottom portion contacts  
6           to the semiconductor substrate;

7           a conductive protruding layer protruding from the  
8           conductive base, and the conductive protruding layer  
9           has a flat top, wherein the conductive protruding  
10          layer has a second top portion and a second bottom  
11          portion, an edge of the second top portion is a second  
12          tip, the second bottom portion is connected to the  
13          first top portion, the conductive protruding layer  
14          has two concave sidewalls; and

15          wherein a multiple tip floating gate is composed of the  
16          conductive base and the conductive protruding layer.

1           2.   The floating gate of claim 1, wherein the conductive  
2 base is a poly layer.

1           3.   The floating gate of claim 1, wherein the conductive  
2 protruding layer is a poly layer.

1           4.   A floating gate formed on the surface of a  
2 semiconductor substrate, with a gate dielectric layer formed  
3 between the floating gate and the semiconductor substrate,  
4 comprising:

5           a base poly layer having a first top portion and a first  
6           bottom portion, wherein an edge of the first top

7                   portion is a first tip, and the first bottom portion  
8                   contacts to the gate dielectric layer; and  
9                   a protruding poly layer protruding from the base poly  
10                  layer, and the protruding poly layer has a flat top,  
11                  wherein the protruding poly layer has a second top  
12                  portion and a second bottom portion, a edge of the  
13                  second top portion is a second tip, the second bottom  
14                  portion contacts the first top portion, the  
15                  protruding poly layer has two concave sidewalls,  
16                  wherein a multiple tip floating gate is composed of the  
17                  base poly layer and the protruding poly layer.